

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 28, 29, 31-48, and 51-69 are presently active in this case; Claims 31, 43, 46, 53, 55, and 58 having been amended, and Claims 64-69 having been added by way of the present Amendment.

In the outstanding Official Action, Claims 28, 29, 31-48, and 51-63 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Claims 46-52 and 55-63 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Claims 28, 29, 35, 42-54, and 57-63 were rejected under 35 U.S.C. §102(e) as being anticipated by Hazelton et al (U.S. Pat. No. 6,252,234).

I. Claim Rejections under 35 U.S.C. § 112, first paragraph

In the outstanding Office Action, Claims 28, 29, 31-48, and 51-63 were rejected because “the damping member being different from a base that supports the first transmitting member” recited in independent Claims 28, 46, and 58 was not disclosed in the specification. However, the specification, in the first embodiment, describes on page 42, lines 14-17 that:

These magnetic units 82A and 82B are fixed on the upper surface of a pair of *reaction frames 84A and 84B which are also arranged* extending in the Y-direction *on the upper surface of the second base plate BP2.*
[emphasis added]

Further, as described in this embodiment on page 44, lines 20-25 of the specification:

as shown in Fig. 2, ***a plurality of first damping members 85*** for damping the vibration of the reaction frames 84A and 84B caused by the reaction force ***are fixed to the reaction frames 84A and 84B***, in the consideration of the above points. [emphasis added]

Further, for example, as described on page 81, lines 15-17 of the specification, in the fourth embodiment:

The main column 14' comprises ***a reaction frame 252, as a first supporting frame, which is set onto the base plate BP...*** [emphasis added]

Further, as described on page 82, lines 17-24 of the specification, in this embodiment:

A plurality of damping members 256 comprising piezoelectric elements such as piezo ceramic elements, in similar to the above damping members 85, ***are vertically arranged and mounted to side surfaces on both sides of legs in the Y-direction*** (in the depth side and on the front side in Fig. 11) ***on both sides of the reaction frame 252 in the X-direction*** (at the right and left in Fig. 11), respectively. [emphasis added]

The above paragraphs in the specification describe that a first transmitting member/supporting frame (i.e. reaction frame) is arranged on or set onto a base (i.e. arranged on a base plate), and a damping member is fixed to or arranged and mounted to the first transmitting member/supporting frame. Therefore, a damping member being different from the base that supports the first transmitting member/supporting frame is disclosed in the specification.

Further, Applicant submits that, according to Webster's New World Dictionary, a definition of "base" is "the thing or part on which something rests." This definition of base corresponds to the description in the specification and its utilization in the claims of the present application, and is clearly different from the damping member described in the specification and recited in the claims.

II. Claim Rejections under 35 U.S.C. § 112, second paragraph

In the outstanding Office Action, Claims 46-52 and 55-63 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for not making clear the relationship between the counter stage and the second member of the driver, as previously claimed. Claims 46 and 55 have been amended to eliminate recitation of a driver and a second member. Thus, it is respectfully submitted that the 35 U.S.C. § 112, second paragraph, rejection has been overcome.

III. Claim Rejections under 35 U.S.C. § 102

In the outstanding Office Action, Claims 28, 29, 35, 42-54 and 57-63 were rejected under 35 U.S.C. § 102(e) as being anticipated by Hazelton et al (U.S. Pat. No. 6,252,234).

Claim 28 defines a stage unit having a sample stage that holds a sample, a stage driving mechanism that drives the sample stage in at least one direction, a first transmitting member to which at least one part of the stage driving mechanism is connected and a

reaction force caused by driving the sample stage is transmitted, and a first damping member that is arranged on the first transmitting member and damps a vibration of the first transmitting member, the first damping member being different from a base that supports the first transmitting member and being arranged at a position where a maximum strain of the first transmitting member is caused.

The first damping member defined in Claims 28, 46 and 58 is arranged on a first transmitting member to which at least one part of the stage driving mechanism is connected.

Hazelton et al describe that:

In the embodiment shown in FIG. 1 and further illustrated in FIG. 2, the top plate 52 is supported on support posts 54 that project through clearance holes in the coil array 50. The support posts 54 rest on a base 58 to prevent it from bending. Alternately, the top plate 52 and the support posts 54 may be a unitary structure. ***The base 58 is coupled to the ground by damping means 60, such as air or oil dampers, voice coil motors, actuators or other known vibration isolation systems. Similarly, the frames 38, 40 and 42 may be coupled to the ground by similar damping means. The coil array 50 is separately and rigidly coupled to the ground by fixed stands 62. In this embodiment, when reaction forces are created between the coil array 50 and the wafer stage 26, the reaction forces push against the ground. Because of the large mass of the ground, there is very little movement of the coil array 50 from the reaction forces.*** By providing damping means 60 to couple the base 58 and the frames 38, 40 and 42 to the ground, ***any vibration that may be induced by the reaction forces through the ground is isolated from the rest of the system 10.***¹ [emphasis added]

Therefore, the first damping member of the present application differs from the “ground” coupling described in Hazelton et al in that the damping means in Hazelton et al are

¹ Hazelton et al, col. 4, lines 11-31.

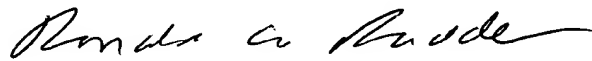
provided between ground and the frame supports and thus are arranged on the ground; whereas in the claimed invention, the damping member is arranged on the first transmitting member to which at least one part of the stage driving mechanism is connected. Accordingly, Applicant submits that Hazelton et al do not disclose a first damping member arranged on a transmitting member, as defined in independent Claims 28, 46, and 58.

Thus, it is respectfully submitted that independent Claims 28, 46, and 58 and the claims dependent therefrom patentably define over the applied prior art.

Consequently, in view of the present amendment and in light of the above discussion, the outstanding grounds for rejection are believed to have been overcome. The application as amended herewith is believed to be in a condition for allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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